

REMARKS

Claims 13-16 currently appear in this application. The Office Action of October 8, 2004, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicants respectfully request favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. in view of Sato et al.

This rejection is respectfully traversed. Claim 13 has been amended to define a cyanine dye with a specific solubility in TFP. Support for this amendment can be found in the specification as filed at page 13, lines 15-17 and at page 30, Table 2. The definition of R₂ in Formula 1 has also been amended to make the herein claimed cyanine dye distinct from those disclose in the cited art.

Neither Inagaki et al. nor Sato et al. discloses a cyanine dye as represented in Formula 1 as defined in claim 13.

The compounds disclosed in Inagaki et al. are all symmetric. Inagaki et al. disclose that the use of the PF⁶⁻ anion results in increased stability, good solubility, and free from danger of explosion for symmetric compounds. There is nothing at all in Inagaki et al. with respect to using the PF⁶⁻ anion as a counter ion for asymmetric compounds.

Sato et al. disclose only asymmetric compounds (see column 4, lines 22-23, where it is recited, "More

particularly, the substituents R_5 and R_6 must be different from each other.") It should be noted that the PF_6^- anion is not mentioned as one of the counter ions to be used with the asymmetric compounds of Sato et al. It should also be noted that Sato et al. disclose the use of the ClO_4^- anion as a suitable counter ion. However, the ClO_4^- anion is excluded from the list of suitable counter ions of the symmetric compounds of Inagaki et al. Because the counter ions used for symmetric and asymmetric compounds are not the same, it is respectfully submitted that one skilled in the art would have no motivation to combine Inagaki et al. with Sato et al.

Additionally, Sato et al. do not disclose that the asymmetric compounds disclosed therein have good solubility in TFP (2,2,3,3-tetrafluoro-1-propanol), while Sato et al. teach that the asymmetric compounds have good solubility in alcoholic solvents, such as methanol and ethanol.

It is therefore respectfully submitted that neither Inagaki et al. nor Sato et al. disclose or suggest cyanine dyes as claimed herein. It is also respectfully submitted that there would have been no motivation to combine Inagaki et al. with Sato et al. because they disclose different types of compounds, i.e., symmetric and asymmetric. As shown in Table 3 at page 33 and page 34, first paragraph, the herein claimed optical recording medium reveals excellent properties.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima et al. in view of Inagaki et al. and/or Saito et al. combined with Sato et al.

This rejection is respectfully traversed. The compounds disclosed in Morishima et al and Inagaki et al. are

all symmetric. The compounds disclosed in Sato et al. are all asymmetric. The cyanine dye of the present invention is asymmetric, and therefore is distinguished from the symmetric compounds of Morishima et al. and Inagaki et al. As noted above, Sato et al. do not disclose cyanine dyes as claimed herein. The cyanine dye of Formula 1 of claim 13 is different from the compounds disclosed in Sato et al. in the substituents at positions R₁ and R₂ in Formula I (please see column 24, lines 54-55 of Sato et al. and compare R₁ and R₂ of claim 13 with R and R(1) of Sato et al.). In short, neither Sato et al. nor Saito et al. disclose a cyanine dye as represented by Formula 1 of claim 13.

Because of the differences in the compounds claimed herein from those in the cited art, it is respectfully submitted that there would be no motivation to combine Morishima et al. with Saito et al. or Sato et al. to obtain the herein claimed compounds.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima et al. in view of Inagaki et al. and/or Saito et al. combined with Sato et al. further in view of Suzuki et al., Otaguro et al. or Yanagisawa et al.

This rejection is respectfully traversed. The differences between the compounds of the present invention and those disclosed by Morishima et al., Inagaki et al., Saito et al. and Sato et al. are as discussed above. While Suzuki et al. teach that formazan dyes are stabilizers for cyanine dyes, Otaguro et al. teach stabilizers for cyanine dyes and Yanagisawa et al. teach nickel compounds as being better than other metal complexes as stabilizers for dyes, including cyanine dyes, none of these patents discloses or suggests the

specific dyes claimed herein. There is no motivation to combine these patents with those of Morishima et al., Inagaki et al., Saito et al. and Sato et al. because the latter four patents neither teach nor suggest the compounds of the present invention. Without such teaching, disclosures of stabilizers add nothing to render the present claims unpatentable.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. in view of Sato et al., further in view of Hamer, "Cyanine Dyes" and Dickerson et al. the Examiner has cited the latter two references to establish that substitution of the meso position of pentamethine cyanine dyes is old and well known, and that it is recognized as promoting aggregation of the dyes, which is said to further support the obviousness of the combination of Inagaki et al. in view of Sato et al.

This rejection is respectfully traversed. The differences between the herein claimed compounds and those of Inagaki et al. and Sato et al. have been discussed above. Hamer discloses a process for preparing asymmetric cyanine dyes. However, there is nothing in Hamer that discloses or suggests the cyanine dyes recited in claim 13. Furthermore, it should be noted that Hamer was published in 1964, and at that time there were no optical recording media, and thus there was no need to have dyes with the characteristics of the dyes claimed herein. Thus, there would be no motivation to substitute the meso portion of pentamethine cyanine dyes in the manner in which these dyes are formed, because there was no motivation to make dyes for optical recording media in 1964.

Dickerson likewise adds nothing to Inagaki et al. and Sato et al. Dickerson merely disclose a process for replacing the meso-position of pentamethine cyanine dyes. However, Dickerson does not teach or suggest a process for producing a cyanine dye as recited in claim 13. Dickerson is silent with respect to optical recording media, and therefore there is no reason to expect that Dickerson would contemplate dyes having the characteristics of the dyes of the present invention.

The Examiner has provided no motivation to combine Morishima et al., Inagaki et al., Sato et al. and Saito et al. to arrive at the compounds claimed herein. The claims have been amended to recite that R_2 is not CH_3 , C_2H_5 , or a straight-chain alkyl group of C_3H_7 , C_5H_7 , or C_5H_{11} . The compounds claimed herein are different from those of Morishima et al., Inagaki et al., Sato et al. and Saito et al. and there fore are patentably distinct.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By: 
Anne M. Kornbau
Registration No. 25,884

AMK:srd
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
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